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Your attention is invited

NEWS OF THE HYDRAULICS DIVISION OF ASCE

JOURNAL OF THE HYDRAULICS DIVISION
PROCEEDINGS OF THE AMERICAN SOCIETY OF CIVIL ENGINEERS

DIVISION ACTIVITIES
HYDRAULICS DIVISION
Proceedings of the American Society of Civil Engineers

NEWS

December, 1958

PURPOSE OF THE HYDRAULICS DIVISION

(Quoted from the Official Register)

"The advancement and dissemination of knowledge relating to the occurrence of water in nature and its behavior in structures, water courses, and underground.

"In particular the field of the Hydraulics Division shall embrace meteorology and hydrology as they affect the engineer, fluid mechanics in engineering usage, and applied hydraulics as a branch of engineering science which furnishes the basis for hydraulic design and for the practical use of water in the different specialized branches of hydraulic engineering."

1957-58 IN REVIEW

Accomplishments of the Hydraulics Division,
Its Technical Committees, and Their Task Forces,
And Their Plans for 1958-59
(Extracted from the 1957-58 Annual Report)

Publications

The Journal of the Hydraulics Division was published bimonthly. The following statistics concerning papers for the Journal have been supplied by the Committee on Publications:

Papers on hand September 1, 1957		20
Since been published	7	
Recommended for publication	2	

Note: No. 1958-31 is part of the copyrighted Journal of the Hydraulics Division, Proceedings of the American Society of Civil Engineers, Vol. 84, HY 7, December, 1958.

Since been declined or withdrawn	9	
Still in process	2	
Total	20	
Papers received since September 1, 1957		58
Published in Journal to 9/1/58	15	
Recommended for publication	6	
To authors for revisions	8	
Declined or withdrawn	4	
Still in process	25	
Total	58	
Papers on which action was completed	43	
Papers on hand September 1, 1958	35	
Total	78	78

Plans are being formulated to dispatch letters to members of the Hydraulics Division within the next few months asking for reviewers in the various fields of hydraulics. It is hoped that a file of several hundred names will be set up.

The Committee on Sedimentation has a task force which is preparing a manual on sedimentation. It is estimated that the job is from one-half to three-fourths finished.

Newsletters were published bimonthly during the year and distributed with the Journal.

Committee on Research

Readers will recall that this new administrative committee was created earlier this year (see February and April Newsletters). The stated purpose of the new Committee is:

> "To initiate, organize, and coordinate programs of research in hydrology, hydromechanics, and applied hydraulics; to determine areas in which research is required; to promote interest in and financial support for research in cooperation with the Society Committee on Research."

At the first meeting of the committee, after extended discussion and with the advice and counsel of Chairman Martin of the Hydraulics Division Executive Committee, it was felt that knowledge of research projects underway and proposed was essential before the committee should attempt to set up any program of work.

Accordingly, a letter was drafted by the committee asking the answers to three questions. They are briefly:

1) What research programs are now in progress in your field?

2) What research programs do you consider should be undertaken in your field?

3) What plans do you have for getting underway the research programs you consider desirable and necessary?

This letter was sent out to the chairmen of the Technical Committees of the Hydraulics Division first and later to the chairmen of Research Committees of other Divisions of the Society. In all, about a dozen letters were sent out, and ten replies have been received. It has not yet been possible to classify and analyze all the material which has been collected but it has been distributed to the committee for study. How to use the excellent material accumulated by this correspondence, to stimulate proposed programs and assist others to inaugurate programs where none have yet been started, are questions to be studied in the coming year.

On September 10 and 11 the Hydraulics Division Committee on Research participated in a Conference on Basic Research in Civil Engineering. This conference was sponsored by the Society with the National Science Foundation and the George Washington University. A more detailed report of the conference is included under the COMMITTEE NEWS section of this Newsletter.

Committee on Standards

The Committee assumed responsibility for United States participation in the work of International Standards Organization Technical Committee 30, SC-1, whose objective is to establish standards for measurement of open channel flow. The Chairman reviewed proposed standards for measurement by the velocity-area method, and corresponded with S. Logan Kerr, Chairman, International Electrotechnical Commission, TC4 and S. R. Beitler, Chairman, Research Committee on Fluid Meters, ASME, regarding their interest in the proposed standards.

The Chairman is working with a sub-committee of the Committee on Hydraulic Structures of the Hydraulics Division in preparing a manual on water measurement for non-experts. He is also working with the Task Force on Friction Factors in Open Channels of the Hydromechanics Committee.

Committee on the J. C. Stevens Award

Reviews of a number of discussions of papers were made and a recommendation forwarded to Society Headquarters.

Committee on the Karl Emil Hilgard Hydraulic Prize

This committee was appointed to examine the 1957 (Volume 122) and 1958 (Volume 123) Transactions and to select a nominee for the award to be made in 1959.

Committee on Flood Control

The work of the committee during the year was concentrated mainly in two fields: (1) Arranging programs for technical sessions at future conventions and conferences of the Society; and (2) Organizing a new Task Force on Flood Plain Zoning.

The committee arranged for three papers at the Chicago Convention; completed arrangements for the Portland Convention; participated in the program at the Atlanta Hydraulics Conference; made arrangements for two papers

dealing with floods on foreign rivers, jointly sponsored with the Committee on Hydrology, at the New York Convention; has arranged for two papers to be jointly sponsored with the Waterways and Harbors Division at the Los Angeles Convention; and three papers are being arranged for the Cleveland Convention dealing with the experience of conservancy districts in control of floods. Plans are in progress for three papers dealing with flood control in the Rocky Mountain area for the Ft. Collins Hydraulics Conference.

A new Task Force on Flood Plain Zoning was approved. Members of the committee and task force attended a conference on flood plain zoning sponsored by the Council of State Governments at Chicago. At the request of the National Wildlife Federation in Washington, the Chairman prepared a brief report on "Flood Plain Zoning to Alleviate Need for Flood Control Storage" which was submitted as part of the program of the General Assembly of the International Union of Nature and Natural Resources held in Athens, Greece on 11-19 September 1959.

Committee on Hydraulic Structures

The committee sponsored two sessions at the Portland Convention, one session at the Atlanta Hydraulics Division Conference, and two sessions at the New York Convention. Plans are underway for one session each at the Los Angeles, Cleveland, and Washington Conventions and the Ft. Collins Hydraulics Division Conference.

The following subjects were submitted to the Research Committee for consideration as research projects: (1) Spreading of jets on a sloping floor; (2) wave pressures on spillway crest gates; (3) losses at bifurcations and trifurcations (diverging flow) in large conduits; (4) investigation of hydraulic characteristics of reverse tainter valves; (5) generalized equation for discharge of tainter gates; and (6) allowable irregularities in hydraulic surfaces which can be tolerated without producing cavitation.

The work of this committee is conducted by the following task forces:

1. Task Force on Energy Dissipators for Spillways and Outlet Works.

   Current work is centered on the preparation of three papers on the subject of bucket energy dissipators for presentation at the February 1959 Convention. Consideration is being given to the preparation of a summary report on the subject of energy dissipators. More emphasis will be placed on prototype performance, possibly by compiling prototype data in some form for publication.

2. Task Force on Hydraulic Design and Operation of Spillways.

   This task force is in the process of preparing an annotated bibliography of available publications on the design and operation of spillways. Papers on spillway design and operation were presented at two technical sessions at the New York 1958 Convention.

3. Task Force on Gates and Valves for Reservoir Conduits.

   The seven papers and five discussions on gates and valves prepared and presented at two technical sessions of the Portland 1958 Convention are being submitted for publication in the Hydraulics Division Journal. Plans are being made for additional papers on miscellaneous types of gates and valves for later Conventions.

4. Task Force on Water Measurements.

Work is being done on a proposed manual on water measurement methods.

5. Task Force on Nomenclature for Hydraulics.

This task force is engaged in preparing a manual on nomenclature for hydraulics, with expected completion in 1959. A card file of over 5,000 items has already been compiled.

6. Task Force on Flow in Large Conduits.

This newly established task force is planning an organizational meeting in 1959 to outline a program of work, with a view to preparing three technical papers for the Washington 1959 Convention.

Committee on Hydrology

The committee sponsored a session of four papers on "Hydrology of the Great Lakes" at the Chicago Convention, a session entitled "Symposium on Water Use Problems and Water-Rights Legislation" at the Atlanta Hydraulics Conference, and a paper at the New York Convention entitled "An Engineering Appraisal of Hydrologic Data." Plans are underway for the presentation of four papers at the Los Angeles Convention, a one-half day session at Ft. Collins, and a one-half day session at the Washington, D. C. Convention.

Two task forces operate under this committee, as follow:

1. Hydrologic Data. A report entitled "An Engineering Appraisal of Hydrologic Data" has been completed and plans are underway for its publication.

2. Spillway Design Floods. This task force has been inactive during the past year, primarily because of complications involving the Joint Task Force on Spillways with the AWWA and the ASCE. Operation of the Joint Committee has been discontinued and the Hydraulics Division is now proceeding with the activities originally planned.

The committee has discussed at some length the problem of water resources and the role of the engineer and of the Society in the whole water resource problem.

Material was furnished the Hydraulics Division Committee on Research on research programs now in progress under the direction of the Hydrology Committee. This included a list of areas where research might be profitable if methods of financing were available.

Committee on Hydromechanics

The committee arranged half-day sessions at the Chicago, Portland and Atlanta and New York meetings. A program for a half-day session at the Los Angeles Convention has been completed. Committee members have also been assigned to arrange sessions at Cleveland, Fort Collins, and Washington, D.C.

The program for the session at the New York meeting included three technical papers sponsored by the Task Force on Friction Factors in Open Channels. These three papers were followed by a panel discussion on friction

in open channels by prominent members representing the experimental, analytical and engineering practice viewpoints.

The four task forces working under the committee are as follow:

1. Aerated Flow in Open Channels.

   The purpose of this task force is to review research work and to prepare a report on the present state of knowledge in the field.

2. Cavitation in Hydraulic Structures.

   This task force has met and preliminary work is in progress.

3. Friction Factors in Open Channels.

   Progress is being made on an annotated bibliography on frictional resistance in open channels. As noted above, this task force sponsored a session at the New York Convention.

4. List of Translations.

   Work is in progress under this task force.

Consideration has been given to the formation of a new task force under the Committee on Hydromechanics. The subject of ground water flow and diffusion in porous media has been proposed and discussed.

The committee felt that the revision of Manual No. 25, Hydraulic Models, is a worthwhile project because of the absence of any book or nomograph to take the place of the outdated manual on hydraulic models. This is an ambitious undertaking and it was felt desirable to proceed cautiously. It was decided that a practical approach to the ultimate objective of a new manual would be achieved by sponsoring several technical sessions or groups of papers on various aspects of hydraulic model theory and technique. Ultimately, these papers could be edited and integrated into a manual. Within one or two years, it would probably be desirable to place this responsibility within the framework of a task force.

This committee has cooperated with the Committee on Research of the Hydraulics Division by submitting ten research proposals for consideration of possible sponsorship. Each committee member submitted two complete proposals outlining objectives, applications, time and cost estimates. It is felt that the proposals submitted are representative of the type of project which should be supported by the Civil Engineering profession.

Committee on Sedimentation

The committee sponsored sessions on sedimentation at the Portland Convention, and the Hydraulics Division Conference held in Atlanta. One session is being planned for the Los Angeles Convention and one session for the Cleveland Convention.

The work of this committee is conducted by the following task forces:

1. Local Scour.

   To obtain the scope of the local scour problem, it is planned to send a questionnaire to various organizations requesting information on occurrence and cost of such scour. This task force sponsored a paper at the Atlanta Conference.

2. Preparation of Manual on Sedimentation.

Since the meeting of this task force in Jackson in February 1957, drafts of one section have been prepared and reports from other members indicate that progress is being made. It is estimated that the job is from one half to three fourths finished.

3. Rates of Reservoir Sedimentation.

This task force considered its work completed and was discharged on 1 April 1958. In the course of its work the task force sponsored six papers at several Society meetings on the subject of rates of reservoir sedimentation.

4. Sediment Distribution in Reservoirs.

Two papers were sponsored by this task force at the New York Convention in October 1957.

Committee on Tidal Hydraulics

This committee sponsored one session at the Portland Convention, one session at the Atlanta Conference, and one session at the New York Convention. A session is planned for the Los Angeles Convention. The committee contemplates a one-session symposium on tidal instruments at the Fort Collins Conference and one session devoted to the New York Harbor for the Washington meeting.

The committee has so far seen no need to organize task committees, because of its unique position in co-existence with the Corps of Engineers Committee on Tidal Hydraulics. The Corps of Engineers Committee has presently active the following projects.

Sedimentation in tidal waterways

Radioactive tracers

Investigation of salinity intrusions and related phenomena

Investigation of existing data on tidal entrances

Tides and currents in tidal waterways

Effects of adjacent shores on tidal entrances

The Committee on Tidal Hydraulics considers that there are, however, important fields of tidal hydraulics which are not necessarily within the purview of the Corps of Engineers Committee on Tidal Hydraulics, or which are of such fundamental nature as to admit of parallel endeavor. The Committee has under consideration the matter of appropriate action in these fields.

Convention Sessions

The Hydraulics Division conducted technical sessions at the following Society meetings:

Place	Dates	No. of Sessions
Chicago	24-28 February 1958	3
Portland	23-27 June 1958	6 (1 jointly w/another Div.)
Atlanta (Hydraulics Division Conf.)	20-22 August 1958	6
New York	13-17 October 1958	6

Plans are being made for technical sessions at the following future Conventions:

Place	Dates	No. of Sessions
Los Angeles	9-13 February 1959	6
Cleveland	4-8 May 1959	4
Ft. Collins	29 June - 3 July 1959	5
Washington	19-23 October 1959	4

Cooperation With Other Societies

This Division is cooperating with the American Standards Association through its Committee on Standards.

Cooperation with Local Sections

The policy of the Hydraulics Division is to extend every possible assistance to local sections, when requested.

Conference on Technical Procedure

The Conference on Technical Procedure held at Memphis, Tennessee in May 1958 was attended by Mr. Harold M. Martin, Chairman, and Mr. L. E. Rydell, Board Contact member. Mr. Martin prepared and presented two papers - "Planning Committee Meetings for Most Effective Operation" and "Operation of Division Research Committees."

National Conference of Hydraulics Division

Place: Atlanta, Georgia

Date: 20-22 August 1958

Number of Sessions: Six

Attendance: Approximately 249 men, 62 ladies, 52 children

Men arranging conference:

Program: Professor C. E. Kindsvater with the cooperation of the chairmen

of the technical committees arranged for papers at the technical sessions.

Local Arrangements: Mr. H. T. Thomson, General Chairman
Committee chairmen and members were listed in the August Newsletter.

Cooperating Organizations: Georgia Section, ASCE, and Georgia Institute of Technology

Final Report on Conference: A general report of the local committee has been prepared. It contains many features that might aid local committees in handling future conferences.

Plans for Future Conferences: The next Hydraulics Division Conference will be held in Ft. Collins, Colorado, 1-3 July 1959. A meeting of the Executive Committee is tentatively planned to be held at Ft. Collins during the course of the Convention.

ASCE - LOS ANGELES CONVENTION

February 9-13, 1959

Tentative Hydraulics Division Program

Session Sponsored by

Hydromechanics Committee

Presiding: Carl E. Kindsvater, Chairman, Executive Committee, Hydraulics Division

INTRODUCTORY REMARKS

Norman H. Brooks, Associate Professor of Civil Engineering, California Institute of Technology, Pasadena, California.

AN INVESTIGATION OF ARTIFICIAL STIMULATION OF THE TURBULENT BOUNDARY LAYER IN OUTLET WORKS.

R. G. Cox, Chief, Analysis Section, U. S. Waterways Experiment Station, Vicksburg, Mississippi, and F. L. Bauer, Captain, Corps of Engineers, U. S. Army, Germany.

THE EFFECT OF A LONGITUDINAL VELOCITY GRADIENT ON THE DRAG COEFFICIENT FOR CIRCULAR CYLINDERS.

Frank D. Masch, Instructor, and Walter L. Moore, Professor of Civil Engineering, University of Texas, Austin, Texas.

EXPERIMENTS ON THE SETTLING OF FLOCCULENT SUSPENSIONS

Ronald T. McLaughlin, Research Fellow in Civil Engineering, California Institute of Technology, Pasadena, California.

Session Sponsored by

Committee on Tidal Hydraulics

Presiding: Carl E. Kindsvater, Chairman, Executive Committee, Hydraulics Division

ANALYSES OF BACKWATER IN TIDAL CHANNELS

Glenn R. Peterson, Associate Hydraulic Engineer, Department of Water Resources, State of California.

SAN FRANCISCO SILTATION INVESTIGATION

Haywood G. Dewey, Jr., Chief, San Francisco Bay Section, Corps of Engineers, San Francisco District, San Francisco, California.

TRACING SEDIMENTS IN SAN FRANCISCO BAY BY RADIOISOTOPES

Ray B. Krone, Research Engineer, Institute of Engineering Research, University of California, Berkeley, California.

Session Sponsored by

Committee on Hydrology

Symposium on Hydrologic Effects of Watershed Treatment

Presiding: Carl E. Kindsvater, Chairman Executive Committee, and David K. Todd, Member, Hydrology Committee

APPLICATION OF HYDROLOGY TO THE PROTECTION OF SMALL WATERSHEDS IN CALIFORNIA

Harold C. Enderlin, State Conservation Engineer, Soil Conservation Service, U. S. Department of Agriculture, Berkeley, California.

THE HYDROLOGY OF STOCK-WATER RESERVOIRS IN UPPER CHEYENNE RIVER BASIN

Richard C. Culler, Project Hydrologist, U. S. Geological Survey, Denver, Colorado.

COOPERATIVE WATER YIELD PROCEDURES STUDY AND SOME PROBLEMS ENCOUNTERED

A. L. Sharp, Supervisory Hydraulic Engineer, Agricultural Research Service; A. E. Gibbs, Hydraulic Engineer, U. S. Bureau of Reclamation; and W. J. Owen, Hydraulic Engineer, Soil Conservation Service, U. S. Department of Agriculture, Lincoln, Nebraska.

WATERSHED TREATMENT PROJECTS IN THE SAN GABRIEL MOUNTAINS OF LOS ANGELES COUNTY

William R. Ferrell, Supervising Civil Engineer, Los Angeles County Flood Control District, Los Angeles, California

Session Sponsored by

Committee on Hydraulic Structures

Presiding: Carl E. Kindsvater, Chairman, Executive Committee, and Harold K. Pratt, Member, Committee on Hydraulic Structures, Hydraulics Division

THE HYDRAULIC DESIGN OF SLOTTED AND SOLID BUCKETS FOR HIGH, MEDIUM AND LOW DAM SPILLWAYS

Glenn L. Beichley and Alvin J. Peterka, Hydraulic Engineers, Hydraulic Laboratory, U. S. Bureau of Reclamation, Denver, Colorado

BUCKET-TYPE ENERGY DISSIPATORS

Fred R. Brown, Chief, Hydrodynamics Branch, U. S. Waterways Experiment Station, Vicksburg, Mississippi

OPERATIONAL LIMITATIONS ON FLIP BUCKET DESIGN

Rex A. Elder, Head, Hydraulic Laboratory, Tennessee Valley Authority, Norris, Tennessee

Session Sponsored by

Committee on Sedimentation

Presiding: Carl E. Kindsvater, Chairman, Executive Committee, and Albert P. Gildea, Chairman, Sedimentation Committee, Hydraulics Division

DELTA FORMATIONS IN RESERVOIRS

A. S. Harrison, Chief, Hydraulics and Sediment Section, Corps of Engineers, Omaha District, Omaha, Nebraska

EROSION CONTROL ON SOUTHEASTERN ARIZONA'S SAN SIMON CREEK

G. H. Lipscomb, State Agricultural Engineer, U. S. Bureau of Land Management, Phoenix, Arizona

SEDIMENT PROBLEMS ON THE LOWER COLORADO RIVER

W. M. Borland, Head, Sedimentation Section, and C. R. Miller, Assistant Head, Sedimentation Section, U. S. Bureau of Reclamation, Denver, Colorado

Session Co-sponsored by

Waterways and Harbors Division and

Flood Control Committee, Hydraulics Division

Presiding: Francis G. Christian, Member, Flood Control Committee, Hydraulics Division

THE LOS ANGELES FLOOD CONTROL PROGRAM

Col. Carroll T. Newton, District Engineer, Corps of Engineers, Los Angeles, and Harold E. Hedger, Chief Engineer, Los Angeles County Flood Control District, Los Angeles, California

EFFECT OF RESERVOIR REGULATION ON THE REGIMEN OF RIVER CHANNELS DOWNSTREAM THEREFROM

Joseph F. Friedkin, Principal Engineer, International Boundary Commission, El Paso, Texas

SURVEYS OF MOUNTAIN SNOW FIELDS BY AERIAL RECONNAISSANCE

Walter J. Parsons, Jr., Chief, Hydrology Section, and Glenn H. Castle, Hydrology Section, Corps of Engineers, Sacramento District, Sacramento, California

LOCAL SECTION NEWS

Colorado Section Hydraulics Division

The Hydraulics Division of the Colorado Section of ASCE held eight meetings during the 1957-58 year. The meetings were combined with those of the Irrigation and Drainage Division of the Colorado Section. Programs for the meetings were as follow:

Date	Subject and Speaker	Attendance
Sept. 25, 1957	"Two Practical Methods for Computing Water Surface Profiles" - J. M. Lara "What's Going on in the Hydraulics Division and ASCE" - H. M. Martin	39
Oct. 23, 1957	"Irrigation in the Midwest and Irrigation Practices, Past, Present, and Future" - Ivan D. Wood	24
Dec. 20, 1957	"Ground Water Problems in Colorado" - William E. Code	18
Jan. 22, 1958	"Irrigation Practice in South America" - Olin Kalmback	21
Feb. 26, 1958	"Evaporation Loss Reduction by Monomolecular Films" - Lloyd O. Timblin	20
Mar. 26, 1958	"Small Reclamation Projects" - Rex Reed	15
Apr. 23, 1958	"Soil Conservation" - Kenneth Chalmers	21
May 28, 1958	"Use of Steel Jacks and Jetties" - E. J. Carlson	24

Officers for the 1958-59 year are Kenneth B. Schroeder, Chairman Howard F. Matthai, Vice Chairman, and Claude R. Hunter, Secretary-Treasurer.

COMMITTEE NEWS

Research Committee Participates in Conference on Basic Research in Civil Engineering

On September 10 and 11 a Conference on Basic Research in Civil Engineering sponsored by the Society with the National Science Foundation and the George Washington University was held in Washington, D. C. The Hydraulic Division Committee on Research participated fully in this conference both in the plenary sessions and the panel activities, having at least one member on each of the four working panels. This conference was organized by the Society's Research Committee and was attended by members from the Committees on Research of the various divisions.

The conference highlighted the civil engineering profession's need for research. If our profession is to advance and develop at the rate it should, it will have to see that the necessary research is conducted. It is no longer safe for us to wait until others develop the new knowledge we need. In the field of hydraulics, civil engineers will have to see that the needed basic research is conducted. Thus, physicists and aeronautical scientists, who up to now have performed most of our really basic research on fluid motion, now have other interests. Our interests are old ones to these people—they have gone on to new areas. To see that the interests arising from hydraulic engineering applications continue to receive adequate attention we must promote the needed fundamental research. This type of conclusion was apparent in regard to the interests of other divisions of the Society as well. One of the working panels of the conference stated in their report, "The civil engineer must assume responsibility for the development of basic knowledge in fields that were formerly the province of one of the sciences."

Naturally considerable discussion was centered about the question of just how the civil engineering profession should promote and support the needed basic research. It was noted that our profession associated as it is with specific jobs (often large ones), rather than products such as pumps or airplanes, is not as well set up for sponsoring basic research studies. Thus, in connection with a large dam or a lock, much research and model testing is usually involved, but this generates little new or basic information. The results obtained, albeit most valuable to the specific project, contribute little to the solution of similar problems the next time they are encountered. Our need is for non-specific research to develop general or basic information on how fluids behave in certain types of situations.

Means will have to be found to support such research. It was noted that the dollar volume of business with which the civil engineering profession is associated is large and that one-tenth of a per cent of this fed into basic research would increase by an order of magnitude, or more, the research effort in civil engineering. This is a fraction of the research funds fed back into the chemical and chemical engineering field which is advancing rapidly as a consequence. It must be admitted that the question of just how to obtain the funding for the necessary basic research in civil engineering was the unanswered question of the conference.

Your divisional research committee has been most active during its first year of existence as an administrative committee. It took the occasion of the Research Conference to hold its second meeting, wherein the status of its two main projects were reviewed. Since these are incomplete only a brief

indication of them will be given at this time. Both projects are concerned with reviewing research needs and activities in hydraulics. The first has involved questioning the divisional technical committees and research or other technical committees in allied divisions on their research activities, plans, or envisioned needs. Replies to the query letter have contained valuable information, but this has yet to be assimilated. The second major project of the committee has been an internal one. Each member has taken a facet of hydraulics or hydraulic engineering of which he is intimately cognizant and has reviewed the research needs and activities. The best manner to use the information being collected to promote needed hydraulic research is, of course, the problem the committee will work on for years to come. In this it will need the active cooperation of the division members.

Professor J. M. Robertson, University of Illinois, is Chairman of the Committee on Research.

FOR YOUR CALENDAR

ASCE Meetings

February 9-13, 1959	ASCE, Los Angeles Convention
May 4-8, 1959	ASCE, Cleveland Convention
July 1-3, 1959	Hydraulics Division, Fort Collins Conference
October 19-23, 1959	ASCE, Washington, D. C., Convention
March 7-11, 1960	ASCE, New Orleans Convention
June 20-24, 1960	ASCE, Reno Convention
October 10-14, 1960	ASCE, Boston Convention
April 10-14, 1961	ASCE, Phoenix Convention
October 16-20, 1961	ASCE, New York Convention
February 19-23, 1962	ASCE, Houston Convention
May 1962	ASCE, Omaha Convention
October 8-12, 1962	ASCE, Detroit Convention

Non-ASCE Meetings

February 19-21, 1959	National Society of Professional Engineers Birmingham, Alabama
February 22-28, 1959	NATIONAL ENGINEERS WEEK
June 15-19, 1959	American Society for Engineering Education, Pittsburgh, Pennsylvania
June 17-20, 1959	National Society of Professional Engineers, New York City
September 1959	International Association for Hydraulic Research, Montreal, Canada

Deadline dates for Newsletter contributions: February issue - December 15; April issue - February 15.

Beginning with the next issue of the Hydraulics Division Newsletter, your editor will be Guy L. Arbuthnot, Jr., P. O. Box 631, Vicksburg, Mississippi. The cooperation of the Hydraulics Division officers, committeemen and members in furnishing material for the Newsletter this past year has been very much appreciated.

MERRY CHRISTMAS

HAPPY NEW YEAR

Newsletter Editor:

E. B. PICKETT